

The Collaboration Paradox: Understanding the Barriers to Innovation Collaboration in Foundries and Metal-Forming firms

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Empirical evidence demonstrates that there is an increasing need for firms to adopt a collaborative approach to innovation. Informational barriers or market failures may, however, limit firms' willingness to engage in collaboration – the collaboration paradox. Drawing on data from semi-structured interviews, we explore how decision-makers in two traditional, SME-dominated manufacturing sectors acquire and evaluate information about the trustworthiness, capabilities and strategic orientation of potential innovation partners. Our findings identify significant informational failures. Supply-chain partners and trade bodies can play a useful role in helping small firms to overcome these barriers to collaboration.

Key findings

We adopt an in-depth qualitative approach to explore the barriers to collaborative innovation in two traditional manufacturing sectors – metal casting and metal forming. Building on earlier research on informational influences on collaboration, we explore the significance of three market failures which may be limiting the extent of collaborative innovation. Our key findings are;

- A clear hierarchy of innovation collaboration strategies exists with many firms keeping their innovation within the boundaries of the organization. For these firms, in-house R&D is the preferred option for driving innovation.
- Despite some collaboration with other sectors, inter-firm collaboration *within* the two study sectors is almost non-existent. Firms do not collaborate with each other for innovation.
- Lack of knowledge of the capabilities of other firms and collaborators is a barrier to innovation collaboration; knowledge of a potential partner's capabilities has a positive influence on the decision to collaborate.
- Trust is crucial to innovation collaboration. Lack of knowledge of a potential partner's trustworthiness is a limiting factor on the decision to collaborate; knowing more about the trustworthiness of a potential partner can positively influence the decision to collaborate.

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Informational Market Failures and Collaborative innovation

Our results suggest that informational market failures deter SMEs from engaging in innovation-focused collaborations. Limited or asymmetric information on the benefits of innovation collaboration is a deterrent to a decision to collaborate. Also, insufficient knowledge of the capabilities of potential partners is a constraint on the collaboration decision. The specific types of information which firms needed to make collaboration decisions are: product and process types, quality standards, a firm's reputation, and success in past collaboration projects. Lack of information on these capabilities prevents firms from utilizing available knowledge and creativity from other firms due to a lack of awareness of the various possibilities that are available and can be harnessed.

Our findings also suggest that trust is a key determining factor in the decision to collaborate. Difficulty in assessing the trustworthiness of potential partners is a hindrance to innovation collaboration.

Policy and Practice Implications

Informational market failures impede SMEs from engaging in innovation collaboration. Supply-chain partners and trade bodies can play a useful role in helping firms to overcome these market failures. Trade bodies, in particular, are well positioned to act as 'honest brokers' of information within their sector creating a public good. Modifying the tax treatment of Trade Associations - currently guided by the Lochgelly principle (see HMRC BIM24805) – could allow Associations to develop their brokering capabilities and networking activities with significant potential benefits for collaborative innovation. More direct supports could also be developed to help Trade or Industry Associations provide services as innovation intermediaries helping firms to build their capabilities for collaborative innovation and establish collaborative innovation partnerships. This type of investment in intermediaries would be a useful complement to the increased support for firm-level innovation envisaged in the Industrial Strategy Challenge Fund.

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